

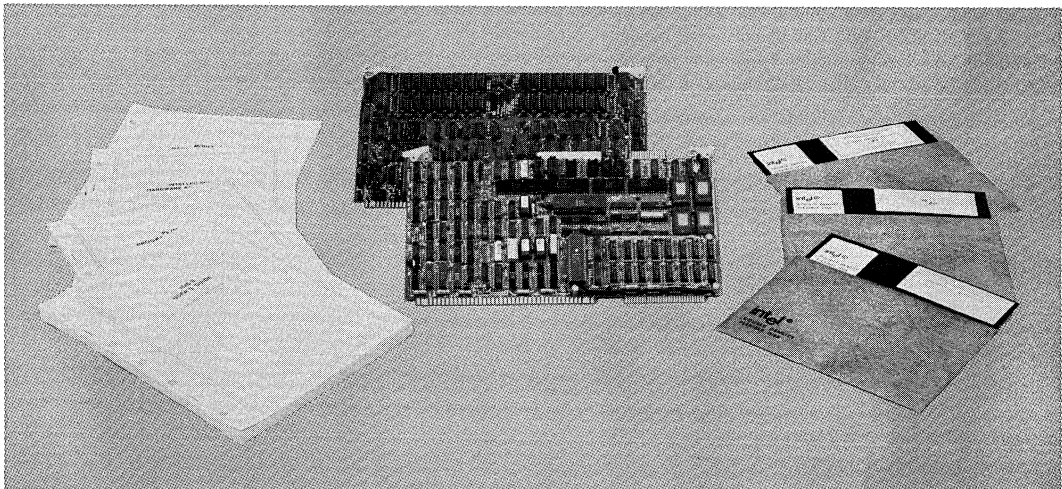


MODEL 556 iAPX 86 RESIDENT PROCESSOR BOARD PACKAGE

- Supports Intellec 432/100 Evaluation and Educational System
- Compatible with iSBC-090 Series 90 Memory System Upgrade: 512K Byte up to 1M Byte
- High Performance 8086-Based CPU Board for Increased Inteltec® Development System Performance and iAPX 86/88 Development Environment
- Upgrades Inteltec Series II/80, Series II/85, Model 800 Microcomputer Development Systems to the Functionality of Series III Systems
- 96K Bytes of User Program RAM Memory Available for iAPX 86/88 User Programs
- Software Applications Debugger for iAPX 86/88 User Programs
- Supports Full Range of iAPX 86/88-resident, High-level Languages: PL/M-86/88, PASCAL-86/88, and FORTRAN-86/88
- Includes iAPX 86/88 Resident Relocating Macro Assembler, Linker, Locator and Librarian
- Dual-Processor Disk Operating System Software with CRT-based Editor
- In Conjunction with Model 677 Provides a Complete Ethernet* Communications Development System Environment

The Model 556 is a performance enhancement package for Inteltec Series II/80, Series II/85 and Model 800 Development Systems, specifically designed for iAPX 86,88 microprocessor development. The Model 556 includes two printed circuit boards (an iAPX 86-based CPU board and a 64K memory board), dual-processor disk operating system software, CRT-based editor, iAPX 86,88 Resident Relocating Macro Assembler, Linker, Locator and Librarian; software applications debugger for iAPX 86,88 user programs; and complete user documentation.

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FUNCTIONAL DESCRIPTION

Hardware Components

Resident Processor Board (RPB-86)—The heart of the RPB-86 is an Intel 8086 16-bit HMOS microprocessor, running at 5.0 MHz. 64K bytes of RAM memory is provided on the board with transparent refresh from the Intel 8202 dynamic RAM controller. 16K bytes of ROM is on board, preprogrammed with an iAPX 86/88 applications debugger. The debugger provides features necessary to debug and control execution of application software for the iAPX 86/88 microprocessors. The RPB-86 occupies two card slots in an Intellec cardcage. The processors use interrupts for interprocessor communications.

RAM Memory Board—The memory board contains 64K bytes of read/write RAM memory and interfaces directly to the Intellec system bus. Refresh hardware is provided onboard for all the dynamic memory elements. Data buffering occurs for all data written to or read from the 64K memory array.

SYSTEM FEATURES

The Model 556 offers many key advantages for iAPX 86/88 applications and Intellec Development Systems: enhanced system performance through a dual host CPU environment, a full spectrum of iAPX 86/88-resident high-level languages, expanded user program space for iAPX 86/88 programs, and a powerful high-level software applications debugger for iAPX 86/88 microprocessor software.

Dual Host CPU—The addition of a 16-bit 8086 to the existing 8-bit host CPU increases iAPX 86/88 compilation speeds and provides for iAPX 86/88 code execution.

When the 8086 is executing a program, the 8-bit CPU off-loads all I/O activity and operates as an intelligent I/O controller to double buffer data to and from the 8086. The 8086 also provides an execution vehicle for 8086 and 8088 object code. An added benefit of two host microprocessors is that 8-bit translations and applications are handled by the 8-bit CPU, and 16-bit translations and applications are handled by the 8086. This feature provides complete compatibility for current systems and means that software running on current Intellec Development Systems will run on the new system.

High-Level Languages for iAPX 86/88—The Model 556 allows the current Intellec system user to take advantage of a breadth of new resident iAPX 86/88 high-level languages: PL/M 86/88, PASCAL 86/88, and FORTRAN 86/88. The iAPX 86/88 Resident Macro Assembler and these high-level language compilers execute on the 8086 host CPU, thereby increasing system performance.

Expanded Program Memory—By adding a Model 556 to an existing Intellec Development System, 96K bytes of user program RAM memory are made available for iAPX 86/88 programs. System memory is expandable by adding additional RAM memory modules. This, combined with the two host CPU system architecture, dramatically increases the processing power of the system.

Software Applications Debugger—The RPB-86 contains the applications debugger which allows iAPX 86/88 programs to be developed, tested, and debugged within the Intellec system. The debugger provides a subset of In-Circuit Emulator commands such as symbolic debugging, control structures and compound commands specifically oriented toward software debug needs.

SPECIFICATIONS

Resident Processor Board (RPB-86):
8086 based, operating at 5.0 MHz
2 RAM — 64K bytes on the CPU board
ROM — 16K bytes (applications debugger)
Bus — MULTIBUS architecture; 5 MHz maximum transfer rate

Electrical Characteristics

DC POWER SUPPLY

Voltage Requirements	Current Requirements (Amperes Max.)
+ 5 ± 5% Volts	8.6 A
+ 12 ± 5% Volts	1.0 A
– 12 ± 5% Volts	0.05 A

Environmental Characteristics

Operating Temperature: 0° to 35°C (32°F to 95°F)
Relative Humidity: To 90% without condensation

Equipment Supplied

iAPX 86 Resident Processor Board (RPB-86)
64K Byte RAM Memory Board
iAPX 86/88 Applications Debugger
Self-test Diagnostics
iAPX 86/88 Resident Macro Assembler and Utilities
Dual Processor Disk Operating System Software
CREDIT™ CRT-based text editor

Documentation Supplied

A Guide to Intellec Series III Microcomputer Development Systems, 121632-001

Intellec Series III Microcomputer Development System Product Overview, 121575

Intellec Series III Microcomputer Development System Console Operating Instructions, 121609

Intellec Series III Microcomputer Development System Pocket Reference, 121610

Intellec Series III Microcomputer Development System Programmer's Reference, 121618

iAPX 86/88 Family Utilities User's Guide for 8086-Based Development Systems, 121616

8086/8087/8088 Macro Assembly Language Reference Manual for 8086-Based Development Systems, 121627

8086/8087/8088 Macro Assembly Language Pocket Reference, 9800749

8086/8087/8088 Macro Assembler Operating Instructions for 8086-Based Development Systems, 121628

Intellec Series III Microcomputer Development System Installation and Checkout Manual, 121612

Intellec Series III Microcomputer Development System Schematic Drawings, 121642

ISIS-II CREDIT (CRT-Based Text Editor) User's Guide, 9800902

ISIS-II CREDIT (CRT-Based Text Editor) Pocket Reference, 9800903

The 8086 Family User's Manual, 9800722

The 8086 Family User's Manual, Numerics Supplement, 121586

Additional manuals may be ordered from any Intel sales representative or distributor office, or from Intel Literature Department, 3065 Bowers Avenue, Santa Clara, California 95051.

ORDERING INFORMATION

Part Number	Description
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MDS-556*	Model 556 performance upgrade package for Intellec Series II/85 and Model 800 Microcomputer Development Systems (110V/60 Hz or 220V/50 Hz). Specifically designed for iAPX 86/88 microprocessor development. Upgrades all Intellec Series II/80 and Series II/85 models to the functionality of an Intellec Series III Development System.
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DS556I Kit	Performance package for Intellec Series II/80 Microcomputer Development Systems. Specifically designed for iAPX 86/88 microprocessor development. The 556I package consists of the Model 556 software and hardware performance package, and the integrated 8085 processor board (IPC-85). This upgrade package is for Intellec Series II/80 Development Systems (110V/60 Hz or 220V/50 Hz) and upgrades all Intellec Series II/80 Models to the full performance and functionality of an Intellec Series III Development System.
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DS556432 Kit	Model 556 combined with the Intellec 432/100 Evaluation and Educational System. This package provides all necessary hardware, software and literature to support iAPX 432 evaluation.
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DS556I432 Kit	Upgrades Intellec Series II/80 users with all necessary hardware, software and literature to evaluate the iAPX 432. This package includes the DS556I and the Intellec 432/100 Evaluation and Educational System.
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